

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A method for automatically registering a sensed image with a reference image, said method comprising the ~~steps~~operations of:

generating a sensor image of a first scene with a sensor mounted on a platform,
the sensor image including a geocoded surface model of the first scene;

accessing a geocoded reference image of a second scene, said geocoded reference image encompassing said sensor image;

identifying the portion of the geocoded reference image depicted in the sensor image;

defining an area of the geocoded reference image based on said geocoded reference image portion; and

conforming said ~~sensor image~~geocoded surface model of the sensor image and said geocoded reference image area to a common perspective by transforming the perspective of at least one of said sensed image and said geocoded reference image area~~[[;]]~~, and matching said images of common perspective.

2. (Cancelled)

3. (Currently Amended) The method of claim 1, wherein the sensor image and reference image are of different ~~internal~~ geometry.

4. (Currently Amended) The method of claim 1, wherein the perspective of said reference image area is transformed to substantially the perspective of the sensor image.

5. (Currently Amended) The method of claim 1, wherein the perspective of the sensed sensor image is transformed to substantially the perspective of the reference image area.

6. (Currently Amended) The method of claim 1, wherein both the sensor image and the reference image area are transformed to a common perspective.

7. (Currently Amended) The method of claim 1, wherein the transforming step operation further comprises the step operation of enhancing the ~~fidelity~~ accuracy of the transformed image using a 3-D surface model of the scene.

8. (Currently Amended) The method of claim 1, wherein the matching step operation further comprises the ~~steps~~ operations of:

determining the translation offset between the images of common perspective; and mapping locations in at least one of said sensor image and reference image by combining geometric transforming functions and functions representing said translation offset.

9. (Currently Amended) The method of claim 8, ~~wherein said reference image is geocoded,~~ said mapping stepoperation further comprising the stepoperation of:
determining geocoded locations in the sensor image corresponding to the geocoding of said locations in the reference image.

10. (Currently Amended) The method of claim 1, wherein the transforming step operation further comprises the stepoperation of:
removing perspective distortion from said reference image area to produce a substantially orthographic image of said area.

11. (Currently Amended) The method of claim 10, wherein said removing step operation further comprises the stepoperation of:
performing an inverse perspective transform to remove said perspective distortion.

12. (Currently Amended) The method of claim 10, wherein the transforming step operation further comprises the stepoperation of aligning the reference ~~chip~~image with the azimuth direction of the sensor.

13. (Currently Amended) A method of registering images, said method comprising the stepsoperation of:
generating a first image of a first scene, the first image having a coordinate system associated therewith;

generating a second image of a second scene, said second image encompassing said first image, the second image having the coordinate system associated therewith;

defining at least a portion of said second image depicting at least a portion of said first image;

conforming said first and second image portions to a common perspective, using the coordinate system; and

matching said image portions of common perspective.

14. (Currently Amended) The method of claim 13, wherein said at least a portion of said second image defined to depict at least a portion of said first image is less than the entire second image.

15. (Currently Amended) The method of claim 14, wherein said defining ~~step~~ operation further comprises defining at least a portion of said second image that depicts substantially the entirety of said first image.

16. (Currently Amended) The method of claim 13, wherein ~~said second image is geocoded,~~ said method further ~~comprising~~ comprises the ~~step~~ operation of:

determining geocoded locations in the first image corresponding to the geocoding of the second image.

17. (Currently Amended) The method of claim 13₁ wherein the first image portion and second image portion are of different ~~internal~~ geometry.

18. (Currently Amended) The method of claim 13₁ wherein the perspective of said second image portion is transformed to substantially the perspective of the first image portion.

19. (Currently Amended) The method of claim 13₁ wherein the perspective of the first image portion is transformed to substantially the perspective of the second image portion.

20. (Currently Amended) The method of claim 13₁ wherein both the first image portion and the second image portion are transformed to a common perspective.

21. (Currently Amended) The method of claim ~~[[1]]~~13₁ wherein the transforming ~~step~~operation further comprises the ~~step~~operation of enhancing the ~~fidelity~~accuracy of the transformed image using a 3-D surface model of the scene.

22. (Original) The method of claim 13 further comprising the ~~step~~operation of:
determining any translation offset between the image portions of common perspective; and

mapping locations in at least one of said first image portion and reference image portion by combining geometric transforming functions and functions representing said translation offset.

23. (Currently Amended) The method of claim 22, wherein ~~one of said first and second image portions is geocoded~~, said mapping ~~step~~operation further comprising the ~~step~~operation of:

determining geocoded scene locations in the other of said image portions corresponding to the geocoding of the scene locations of said one image portion.

24. (Currently Amended) The method of claim 13, wherein the transforming ~~step~~operation further comprises the ~~step~~operation of:

removing perspective distortion from said second image portion to produce a substantially orthographic image of said second image portion.

25. (Currently Amended) The method of claim 24, wherein said removing ~~step~~operation further comprises the ~~step~~operation of:

performing an inverse perspective transform to remove said perspective distortion.